BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

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Application of SAN DIEGO GAS & ELECTRIC COMPANY (U902M) for Approval of its Energy Storage Procurement Framework and Program As Required by Decision 13-10-040.	Application14-02-006 (Filed February 28, 2014)
And Related Matters.	Application 14-02-007 Application 14-02-009

RESPONSE OF THE OFFICE OF RATEPAYER ADVOCATES TO ADMINISTRATIVE LAW JUDGE'S SCOPING MEMO

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I. INTRODUCTION

Pursuant to the *Scoping Memo and Ruling of Assigned Commissioner and Administrative Law Judge* ("Scoping Memo") issue May 27, 2014, the Office of Ratepayer Advocates ("ORA") responds to the questions set forth in the Scoping Memo.

II. BACKGROUND

Assembly Bill ("AB") 2514 requires the California Public Utilities Commission ("Commission") to determine appropriate targets for the investor-owned utilities ("IOUs") in order to procure viable and cost-effective energy storage systems and to adopt an energy storage system procurement target.[1] On December 2010, the Commission opened a formal rulemaking pursuant to AB 2514.

On October 2013, the Commission issued Decision ("D.") 13-10-040 ("Storage Decision"), establishing a target of 1,325 megawatts ("MW") of energy storage to be procured by the IOUs by 2020[2] and ordered the IOUs to file separate procurement applications outlining

[1] AB 2514 (Chapter 469, Statutes of 2010)

[2] D.13-10-040, Conclusion of Law ("CoL") 41, p. 76.

proposals for their first energy storage procurement period.[3] On February 28, 2014, San Diego Gas & Electric Company ("SDG&E"), Pacific Gas and Electric Company ("PG&E"), and Southern California Edison Company ("SCE") filed applications presenting their respective procurement.[4]

On April 7, 2014, ORA and other stakeholders[5] submitted protests to the IOUs' applications, and a prehearing conference was held on May 14, 2014.[6] Commissioner Peterman and Administrative Law Judge ("ALJ") Kersten issued a Scoping Memo scheduling a workshop. The Scoping Memo also set forth a list of questions for parties to answer by June 12, 2014.[7] ORA files this Response to the questions set forth in the Scoping Memo.

III. RESPONSE TO SCOPING MEMO QUESTIONS

Energy storage procurement is in the early stage of development and will evolve as actual experience is gained from the process. Therefore, any rule and procedure adopted during the first round of energy storage procurement be subject to review. Based on lessons learned, improvements should be implemented for the next round of procurement in 2016 and beyond. The Scoping Memo questions and ORA's response are addressed below.

1. Do PG&E, SCE, and SDG&E Applications comply with Energy Storage Decision and the Commission's guiding principles for energy storage procurement? Do PG&E, SCE, and SDG&E correctly identify its existing eligible energy storage projects and correctly calculate its 2014 Biennial Adjusted Storage Target? If not, what deficiencies exist and how should they be addressed?

ORA reviewed the list of existing energy storage projects provided by the IOUs and has not identified any issues with it. ORA finds PG&E, SCE, and SDG&E have correctly calculated their 2014 Biennial Adjusted Storage Targets.

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[3] D.13-10-040, Ordering Paragraph ("OP") 3, p. 77.

[4] The IOUs filed the following procurement applications: SDG&E (A.14-02-006); PG&E (A.14-02-007); SCE (A.14-02-009).

[5] Clean Coalition; Sierra Club; Imergy Power Systems, Inc., Primus Power, ZBB Energy Corporation, EnerVault Corporation and UniEnergy Technologies ("Joint Long Duration Energy Storage Companies"); Agricultural Energy Consumers Association ("AECA"); Brookfield Renewable Energy Partners LP; Marin Clean Energy; Energy Storage Association; Calpine Corporation; California Energy Storage Alliance ("CESA") Shell Energy North America (US) L.P.; The Utility Reform Network ("TURN"), Consumer Federation of California ("CFC").

[6] Scoping Memo, p. 3.

[7] Scoping Memo, Rulings 4 & 5, p. 8.

2. Will PG&E, SCE, and SDG&E proposed procurement plans ensure safe and reliable delivery of energy to customers?

The IOUs' proposed procurement plans may not be the most effective vehicles to ensure safe and reliable delivery of energy to customers. The proposed procurement plans are not meant to provide specific energy storage projects for consideration, but rather set forth a process by which the IOUs will eventually procure energy storage to meet the targets ordered in the Energy Storage Decision. Issues related to safe and reliable service should be raised and examined during the IOUs' request for offer ("RFO") processes and the Commission's review of the IOUs' individual energy storage procurement proposals. At that time, the Commission and stakeholders should thoroughly review the IOUs' energy storage proposals to determine whether they are reasonable, cost-effective, and safe and reliable.

In this proceeding, however, the Commission may adopt a process that promotes a more thorough examination of the IOUs' future procurement practices to ensure that safety and reliability are a key component going forward. Since energy storage is in its infancy, it is reasonable that the Commission require the IOUs to file applications, via the expedited application process ORA proposes in response to Question 10, requesting approval of their initial energy storage proposals to ensure they are reliable and safe for the grid and public consumption.

3. Do cost recovery and allocation rules associated with transmission/distribution/and customer-side of the meter types of storage need to be clarified and/or further defined in this proceeding or other related proceedings?

The Commission should clarify and/or define cost recovery and allocation rules associated with transmission, distribution, and customer-side of the meter types of storage in this proceeding. It is more efficient for the Commission and stakeholders to address cost recovery and allocation issues up front rather than having to continue to litigate the issues. ORA provides a cost recovery and allocation proposal in the following section, but contends that further briefing on this issues may be necessary based on parties' opening responses. Alternatively, if cost allocation is not addressed in this proceeding, ORA recommends that cost allocation of energy storage be addressed in Phase 2 of the IOUs' respective general rate cases ("GRC").

4. Should any energy storage cost recovery occur through the Power Charge Indifference Adjustment ("PCIA") for above market stranded costs? Is cost recovery through Cost Allocation Mechanism ("CAM") appropriate for generation providing reliability services?

As discussed above, the Commission should clarify and/or define cost recovery and allocation rules in this proceeding or, alternatively, address the issue in Phase 2 of the IOUs' respective GRCs. Generally, ORA recommends the energy storage costs be allocated to generation and recovered through the distribution rates of customer bills. Though energy storage may provide a number of services to transmission and distribution, its core capability is to function as a generation source within the grid. Further, the use of energy storage will benefit all customers so it makes sense to allocate the costs to generation and recover costs through distribution rates.

ORA does not support using the PCIA for above market stranded costs in this proceeding. The PCIA generally applies to IOU commitments to resources made in the past and is not intended to address new commitments. Further, the cost of energy storage contracts would not be charged to existing Direct Access ("DA") and community choice aggregator ("CCA") customers, but rather future DA/CCA customers that depart utility services after the energy storage comes on line and is part of the utility's revenue requirement.

5. Does the Pro Forma Energy Storage Agreement adequately address contract issues or should it provide more standardized or specific detail? Is the 10-year contract limit a barrier towards effective and timely financing of proposed projects?

The *Pro Forma* Energy Storage Agreement seems reasonable, but since it is subject to revisions, both before and after it is provided to the counterparties, substantial changes are very likely. ORA requests the opportunity to review and provide comments before these documents are finalized.

6. Should the deadline to execute and submit contracts from the 2014 Storage RFO to the Commission change from one year after the RFO issued to a longer period (e.g., within one year of creating its short list of offers)?

ORA provides no recommendation at this time.

7. Should pre-bidding interconnection requirements be consistent across utilities? If so, how?

ORA recommends consistent pre-bidding interconnection requirements across utilities, since this will help ensure that only the most viable projects are selected. Consistency across the IOUs will promote predictability and transparency in the interconnection process, conforming to the goals of the Rule 21 Rulemaking proceeding, "to ensure that the interconnection process is timely, non-discriminatory, cost-effective, and transparent."[8] Further, in the Rule 21 proceeding, the Commission stated its intent to revise the IOUs' interconnection tariffs to "incorporate processes for new technologies, such as energy storage."[9] Additionally, ORA recommends the treatment of interconnection-related issues in this proceeding should be consistent with and reflect the Commission's efforts and objectives in its other proceedings that specifically focus on interconnection, including the Rule 21 proceeding.

8. Other than the Permanent Load Shifting incentive program and Self-Generation Incentive Program, should the IOUs be doing more to procure or support customer-side storage? If so, how should the IOUs' plans be augmented?

There is no evidence to suggest the IOUs should do more to procure or support customer-side storage at this time. In fact, SCE's procurement plans demonstrate SCE's existing forecasts for customer-side storage meets and exceeds its customer-side procurement targets for the 2014 and 2016 procurement cycles.[10] SDG&E states its existing customer-side storage will also exceed its 2014 target.[11] It is premature to require the IOUs to do more to procure or support customer-side storage. The Commission should allow the IOUs to implement their procurement processes to determine whether those processes are satisfactory or need revisions. If necessary, it may be appropriate to re-examine this issue based on the results of the IOUs' procurements.

[8] Order Instituting Rulemaking ("R.") 11-09-011, p. 1, (filed on 09/27/2011).

[9] R.11-09-011, p. 1.

[10] SCE Testimony, Section III [Witness M. Nelson], p. 31.

[11] SDG&E Prepared Direct Testimony of Lee S. Krevat, pp. 5-6. SDG&E will procure 4.66 MW in 2014, which exceeds its set target of 3 MW.

9. Does the Commission's post solicitation review process and related timing provide sufficient transparency and due process to ensure a quality storage procurement process?

It is not clear what the post-solicitation review by the Commission will entail. The post-solicitation review process should provide sufficient time for the Commission as well as for ORA (and possibly other parties) to review the results of the solicitation, and provide input for the Commission consideration.

10. Should projects be approved by Tier 3 advice letter or by Application? What parameters should dictate the appropriate method?

Since the energy storage procurement is a new process, ORA recommends that initially the energy storage projects be filed via applications requesting an expedited review,[12] to provide more opportunity for ORA and other parties to review the data, conduct discovery, and provide meaningful input on the selection process. As the energy storage procurement process matures, it may be reasonable to consider energy storage projects by either an application or Tier 3 advice letter depending on project characteristics. ORA recommends that the Commission monitor the initial energy storage project applications and use the results to establish a calculated threshold for projects that require review via application and projects that are suitable for Tier 3 advice letter filing.

11. Do the definition of storage and/or related eligibility rules need to be clarified. If so, how?

The Scoping Memo ruled that Energy Division ("ED") conduct a workshop on June 2, 2014, to address issues pertaining to the definition of storage, among other things.[13] ED staff provided a discussion paper for the workshop, which included: a narrow definition (man-made process) and a broad definition (man-made or natural process).[14] A narrower definition was also

[12] The Commission has conducted expedited reviews of applications that are considered time sensitive. For example, in A.12-11-001 et al, the Commission issued a scoping memo (01/28/13) that anticipated a final decision on the IOUs' Electric Program Investment Charge ("EPIC") Program research and development investment plans by July 25, 2013. Similarly for the same program, the Commission ordered the IOUs to file their second EPIC Program research and development investments plan applications by May 1, 2014 and anticipate a final decision on those applications by December 2014. Further, the Commission's schedule to review the IOUs' energy storage applications in this proceeding is on an expedited track. As the Commission is aware, a scoping memo in this proceeding was issued on May 27, 2014 and a final decision on the IOU applications is scheduled for October 2014.

[13] Scoping Memo Ruling #4, p. 8.

[14] ED Staff Discussion paper for June 2, 2014 Workshop, p. 7. www.cpuc.ca.gov/NR/.../0/StaffDiscussionPaper_0601214.pdf

included where energy storage was defined as "storing specifically electrical energy generated via a man-made mechanism connected to the electric grid." Based on the feedback of parties at the workshop, there appeared to be no consensus on which definition to use.

As explained in more detail below, ORA recommends using a narrower definition at this time. Under this definition, energy storage would be defined based on input of electricity as a source to store energy and output of stored electricity.[15] This definition can be subject to refinements in the future as actual experience is gained with energy storage resources. ORA recommends against using a broad definition for a number of reasons.

First, the Public Utilities ("PU") Code Section 2835[16] provides a definition that energy *generated* must be stored to be *released* at a different time.[17] In addition, PU Code Section 2837 specifically refers to energy storage for several purposes directly impacting *electricity* demand and consumption:[18]

> Each electrical corporation's renewable energy procurement plan, prepared and approved pursuant to Article 16 (commencing with Section 399.11) of Chapter 2.3 of Part 1, shall require the utility to procure new energy storage systems that are appropriate to allow the electrical corporation to comply with the energy storage system procurement targets and policies adopted pursuant to Section 2836. The plan shall address the acquisition and use of energy storage systems in order to achieve the following purposes:
>
> (a) Integrate intermittent generation from eligible renewable energy resources into the reliable operation of the transmission and distribution grid.
>
> (b) Allow intermittent generation from eligible renewable energy resources to operate at or near full capacity.
>
> (c) Reduce the need for new fossil-fuel powered peaking generation facilities by using stored electricity to meet peak demand.
>
> (d) Reduce purchases of electricity generation sources with higher emissions of greenhouse gases.

[15] The exception is thermal storage as specifically required by the AB2415.

[16] Codified into law by AB 2514 (Chapter 469, Statutes of 2010).

[17] http://leginfo.legislature.ca.gov/faces/codes_displayText.xhtml?lawCode=PUC&division=1.&title=&part=2.&chapter=7.7.&article=

[18] PU Code §§ 2935-2937. http://leginfo.legislature.ca.gov/faces/codes_displayText.xhtml?lawCode=PUC&division=1.&title=&part=2.&chapter=7.7.&article=

(e) Eliminate or reduce transmission and distribution losses, including increased losses during periods of congestion on the grid.

(f) Reduce the demand for electricity during peak periods and achieve permanent load-shifting by using thermal storage to meet air-conditioning needs.

(g) Avoid or delay investments in transmission and distribution system upgrades.

(h) Use energy storage systems to provide the ancillary services otherwise provided by fossil-fueled generating facilities.

These areas are related to *energy storage* that directly impact *electricity* demand usage. Resources that should not qualify for storage are biogas (such as methane) and V1G (one-way managed flow of electricity from the grid to electric vehicles).[19] Neither of the two examples above, nor any similar resources would qualify under the statutory definition for energy storage. Biogas is not generated or stored by electricity. If biogas is considered to be "energy storage" then many similar sources such as natural gas and diesel would also qualify.

Similarly, PU Code Sections 2835-2839 do not include non-storage electricity resources such as demand response and energy efficiency. V1G is an example which would qualify under demand response, but not storage.

Second, the Commission found that it is reasonable to set procurement targets to encourage the development and deployment of new energy storage technologies. [20] If a broad definition is utilized, and any energy source is deemed to be capable of storage, the new storage technologies will not have a chance to develop. Hence, it would defeat the original purpose of the energy storage statutes.

Third, if a broad definition is selected, as stated in the ED staff discussion paper, non-storage resources like diesel generators can also qualify.[21] In extreme cases, the broad definition can also apply to coal power plants and even nuclear generation. To avoid being inundated by all kinds of sources of energy being offered to meet the energy storage targets, the Commission should begin with the narrower definition. It is much easier to expand this definition in the future – if needed – than starting with a broad definition and attempting to narrow it down by eliminating some sources that may initially be considered to be energy storage resources.

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[19] ED Discussion Paper, p. 7.

[20] D.13-10-040, Conclusion 5, p. 73.

[21] ED Discussion Paper, p. 7.

As stated above, as an exception, AB 2514 has specific language related to thermal storage to reduce electricity consumption as follows:

> (f) Reduce the demand for electricity during peak periods and achieve permanent load-shifting by using thermal storage to meet air-conditioning needs.

This statutory language appears to provide an exception requiring that thermal storage be considered "energy storage" for the purpose of setting targets.

The definition of storage and/or related eligibility rules need to be clarified. ORA recommends adopting a narrower definition initially, based on electricity as an input and electricity as an output of the stored energy, with the addition of thermal energy storage as defined in the language of the statue above.

12. Do the "commercial availability" and "technologically viable" evaluation criteria need to be clarified? If so, how?

At the June 2, 2014 workshop, the IOUs stated that the Commission should not provide additional clarification for "commercial availability" and "technology viable." The IOUs and other parties cautioned that it is too early to adopt prescriptive definitions for the terms. ORA agrees. At this time, it is reasonable to address commercial availability and determine technology viability during the review of specific IOU proposed energy storage projects. After the Commission has reviewed a number of IOU proposed storage projects, it may be reasonable to revisit this issue and adopted more standardized definitions based on lessons learned.

13. Does the consistent evaluation protocol (CEP) need to be augmented? If so, how can it be augmented to enhance storage program goals? Is the quantification of benefits adequately addressed in protocols?

Initially, the CEP should be used for information-only purposes and should not be utilized in the procurement decision making process. The results of the CEP should be reviewed and evaluated. If the CEP evaluation process is determined to be robust and to provide a reasonable range of results, it can be utilized in future evaluations of energy storage offers. The CEP can be augmented if potential improvements to the process are identified in the future.

14. Do procurement/RFO requirements need to be augmented? If so, how?

ORA does not recommend augmenting the IOU procurement and RFO requirements at this time. ORA reserves the right to further address this issue, if necessary.

15. Should the standard for deferment of the biennial procurement target be clarified? Should the deadline for requesting deferment of storage targets change from three months after the utilities' receipt of RFO offers to a longer period (e.g., 12 months after the RFO offers have been shortlisted)?

If the deadline for requesting deferment of storage targets is extended, the extra time provided should not impact the targets set for the energy storage procurement in later biennial phases.

IV. CONCLUSION

ORA appreciates the opportunity to response to the questions set forth in the Scoping Memo. For the reasons state above, ORA urges the Commission to adopt the recommendations made herein.

Respectfully submitted,

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Attachment A

Definition of Energy Storage from AB2514

(a) (1) “Energy storage system” means commercially available technology that is capable of absorbing energy, storing it for a period of time, and thereafter dispatching the energy. An “energy storage system” may have any of the characteristics in paragraph (2), shall accomplish one of the purposes in paragraph (3), and shall meet at least one of the characteristics in paragraph (4).

(2) An “energy storage system” may have any of the following characteristics:

(A) Be either centralized or distributed.

(B) Be either owned by a load-serving entity or local publicly owned electric utility, a customer of a load-serving entity or local publicly owned electric utility, or a third party, or is jointly owned by two or more of the above.

(3) An “energy storage system” shall be cost effective and either reduce emissions of greenhouse gases, reduce demand for peak electrical generation, defer or substitute for an investment in generation, transmission, or distribution assets, or improve the reliable operation of the electrical transmission or distribution grid.

(4) An “energy storage system” shall do one or more of the following:

(A) Use mechanical, chemical, or thermal processes to store energy that was generated at one time for use at a later time.

(B) Store thermal energy for direct use for heating or cooling at a later time in a manner that avoids the need to use electricity at that later time.

(C) Use mechanical, chemical, or thermal processes to store energy generated from renewable resources for use at a later time.

(D) Use mechanical, chemical, or thermal processes to store energy generated from mechanical processes that would otherwise be wasted for delivery at a later time.